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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,073	12/28/2001	Chris J. Goodings	20011891	3971

36183 7590 04/16/2007  
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EXAMINER
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ROSE, KERRI M

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/035,073	GOODINGS, CHRIS J.	
	Examiner	Art Unit	
	Kerri M. Rose	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US 5,694,438).
4. In regards to claims 11 and 12, Wang discloses transmitting, in a frame period, blocks of data that have not been previously transmitted and blocks of data that were transmitted in the previous frame period (Figure 3 discloses several repeat frame structures. Figure 4 discloses a structure in which the first block is new data and the next two blocks are repeated data.).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 6-10, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,694,438) in view of Haartsen (WO 00/70811; previously cited).

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7. In regards to claims 1 and 10, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

8. In regards to claim 2, Wang discloses transmitting and receiving error detection information in column 3 lines 31-34.

9. In regards to claims 6 and 8, Wang and Haartsen disclose only transmitting/receiving the redundant information when quality is below a threshold (Haartsen pg. 8 lines 12-24).

10. In regards to claims 7 and 9, Wang and Haartsen disclose using maximum bit error rate to define the quality threshold (Haartsen pg. 12 line 28 – pg. 13 line 1).

11. In regards to claim 13, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the

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second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency. Wang also does not disclose only transmitting the redundant data if the communication link fails to satisfy a criterion.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2. Haartsen disclose only transmitting/receiving the redundant information when quality is below a threshold in pg. 8 lines 12-24.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

12. In regards to claim 14, Wang and Haartsen disclose measuring bit error rate and determining if it exceeds a predetermined level (Haartsen pg. 8 lines 12-24).

13. Claims 3-5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang and Haartsen as applied to claim 1 above, and further in view of Fischer (US 5,371,734; previously cited).

14. In regards to claims 3-5 and 15 Wang discloses the system of claim 1, but not using transmitter or receiver battery power level to determine whether to send/receive the redundant data.

15. Fischer discloses using the battery power remaining to determine whether to keep the transmitter or receiver active in column 28 lines 38-43.

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16. It would have been obvious to one of ordinary skill in the art to use the power saving technique taught by Fischer within the diversity system of Wang and Haartsen because remaining active at all times for sending/receiving redundant data is a drain on battery life, as disclosed by Fischer in column 4 line 56 – column 5 line 3.

17. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,694,438) in view of Haartsen (WO 00/70811; previously cited) further in view of Pandula (WO 95/34960; previously cited).

18. In regards to claim 16, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes. Wang discloses error detection and correction in column 3 lines 30-34.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency. Wang also does not disclose storing null data if information was received with errors or storing the data if received without errors.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

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Pandula discloses detecting errors in page 14 lines 4-25. If the data has an error it is discarded, otherwise it is stored.

It would have been obvious to one of ordinary skill in the art to store or discard received data dependent upon the presence of errors, as taught by Pandula, when determining whether to store the data received by the system of Wang and Haartsen because doing so allows only uncorrupted data to be received, as taught by Pandula in page 7 lines 7-16.

19. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,694,438) in view of Haartsen (WO 00/70811; previously cited) further in view of Pandula (WO 95/34960; previously cited) further in view of Fischer (US 5,371,734; previously cited).

20. In regards to claim 16, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes. Wang discloses error detection and correction in column 3 lines 30-34.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency. Wang also does not disclose storing null data if information was received with errors or storing the data if received without errors. Wang does not disclose depowering the receiver circuit.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2.

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It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

Pandula discloses detecting errors in page 14 lines 4-25. If the data has an error it is discarded, otherwise it is stored.

It would have been obvious to one of ordinary skill in the art to store or discard received data dependent upon the presence of errors, as taught by Pandula, when determining whether to store the data received by the system of Wang and Haartsen because doing so allows only uncorrupted data to be received, as taught by Pandula in page 7 lines 7-16.

Fischer discloses using the battery power remaining to determine whether to keep the transmitter or receiver active in column 28 lines 38-43.

21. It would have been obvious to one of ordinary skill in the art to use the power saving technique taught by Fischer within the diversity system of Wang and Haartsen because remaining active at all times for sending/receiving redundant data is a drain on battery life, as disclosed by Fischer in column 4 line 56 – column 5 line 3.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Rose whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kmr



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